



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/662,178

09/15/2003

Ray G. Sadler

10001445-4

1351

22879 7590 04/10/2007

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

KAPLAN, HAL IRA

ART UNIT

PAPER NUMBER

2836

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
----------------------------------------	-----------	---------------

3 MONTHS

04/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/662,178

Applicant(s)

SADLER ET AL.

Examiner

Hal I. Kaplan

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

1. Applicants' claims for priority to Applications 10/171,915, 09/940,973, and 09/563,003 are rejected because the reference in the first paragraph of the specification does not list each application by application number and does not include the relationships between the applications. See MPEP § 201.11(III)(A). Patent numbers and issue dates may be included in the reference, but the application numbers and relationships must be included. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the

Art Unit: 2836

filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference

in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

***Drawings***

2. The drawings were received on January 19, 2007. These drawings are accepted.

***Claim Objections***

3. Claim 17 is objected to because of the following informalities: Claim 17, line 4 contains the phrase "hot swapping". It appears this should be "switching". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by the US patent of Cabaniss et al. (5,790,394).

As to claim 17, Cabaniss, drawn to a dual AC power supply input module, discloses a first bulk power supply (201,205,207,217); a second bulk power supply (202,205,207,227) (see column 3, lines 2-12 and Figure 2); at least one isolation diode (231,232,241,242) for switching between the first and second bulk power supplies without disabling either bulk power supply (see column 3, lines 58-61); and an output

Art Unit: 2836

receiver (205) that receives output from the diode (see column 3, lines 2-12 and Figure 2)..

As to claim 20, Cabaniss discloses the use of control logic (124) for controlling the bulk power supply system (see column 1, lines 41-51).

***Claim Rejections - 35 USC § 103***

6. The indicated allowability of claims 26 and 27 is withdrawn in view of the newly discovered reference(s) to Cabaniss and Higashi. Rejections based on the newly cited reference(s) follow.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 18, 19, 24, and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabaniss in view of the US patent of Gegner (5,404,092).

As to claims 18 and 26, Cabaniss discloses a rectifier (217) that receives AC input power from a power distribution control assembly (201) (see Figure 2). Cabaniss does not disclose the claimed line filter or the claimed combination of a power factor correction circuit and a converter. Gegner, drawn to a high power factor AC/DC converter with reactive shunt regulation, discloses a line filter (501) that receives AC input power; a power factor correction circuit (503); and a converter (506) that receives the DC power after power factor correction (see column 4, lines 56-65 and Figure 5). It would have been obvious to one of ordinary skill in the art, to use a line filter with the AC input power of Cabaniss and adjust the DC power output from the rectifiers, in order to reduce EMI noise and allow the output voltage, current, or power to be maintained independent of variations in the load.

As to claims 19 and 29, Gegner discloses suppressing harmonic signals (501) from reflecting back to the AC input lines (see column 8, lines 6-7).

As to claims 24 and 32, Cabaniss in view of Gegner do not disclose the 0.98 power factor value; however, selections of values of operational levels for an electronic device are engineering decisions based upon the system's intended use and the

expected requirements of the systems with which it will interface. See MPEP §2144.04 IV (A).

In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

As to claim 27, the switching between the converter chains of Higashi occurs instantaneously (see column 5, lines 12-17).

As to claim 28, Higashi discloses the outputs of at least two DC-DC converters (16-20) being transmitted to an output filter (19,20) (see column 4, lines 65-67 and column 5, lines 29-34).

As to claim 30, Cabaniss discloses providing output to a chassis (205) for distribution to other components of the user system (see column 3, lines 2-12).

As to claim 31, Cabaniss discloses sending and receiving status information between a power monitor and the user system via a connector (see column 3, lines 61-64).

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cabaniss in view of the US patent of Brown et al. (5,481,730).

As to claim 21, Cabaniss discloses all of the claimed features, as set forth above,



except for the claimed power monitoring. Brown, drawn to monitoring and control of power supply functions using a microcontroller, discloses control logic for a power supply system which sends and receives status information to and from a power monitor via a connector (see column 1, lines 48-59). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have incorporated such control logic into the system of Cabaniss in order to anticipate impending problems and prevent hardware failures.

12. Claims 22 and 23 are rejected under 35 U.S.C 103(a) as being unpatentable over Cabaniss in view of Brown, as applied to claim 21 above, and further in view of the US patent of Li (6,700,767).

As to claims 22 and 23, Cabaniss in view of Brown disclose all of the claimed features, as set forth above, except for the claimed fan. Li, drawn to a temperature-based cooling fan controlling structure, discloses a fan (see Figure 1) for cooling a bulk power supply system, further comprising at least one bias supply (Vcc) for supplying power to the fan (see column 2, lines 31-44 and Figures 1 and 2). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used a fan with a bias supply such as that taught by Li to supply power to the fan and the control logic of Cabaniss in view of Brown, in order to prevent damage to the circuitry due to an over temperature condition.

13. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cabaniss in view of the US patent of Kociecki (6,198,642).

As to claim 25, Cabaniss discloses all of the claimed features, as set forth above,

Art Unit: 2836

except for the claimed load share controller. Kociecki, drawn to a compact multiple output power supply, discloses a load share controller (696) to control load sharing in a bulk power supply system (see column 20, line 26 - column 21, line 14). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the Unitrade Corp. type UC3902 load share controller, as taught by Kociecki, to control load sharing in the system of Cabaniss, in order to ensure that each load receives its proper voltage and current.

14. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US patent of Takeuchi (6,580,251) in view of the US patents of Gegner (5,404,092) and Philips et al. (6,845,023).

As to claim 28, Takeuchi, drawn to a power charging device using multiple energy sources, discloses a method of providing a supply power output comprising: receiving first and second AC inputs (12) from respective first and second AC input lines (see column 3, lines 20-30 and Figure 1); converting the first and second AC inputs (12) into DC power (14) (see column 3, lines 31-32); sending the DC power (14) to at least two converters (36), wherein the at least two converters (36) are designated to receive DC power of differing voltage levels (see column 3, line 59 - column 4, line 12; column 3, lines 20-30 indicate that the input AC voltages and thus the DC voltages are different); transmitting outputs of the at least two converters (36) to at least one isolation diode (see Figure 1); and receiving an output (42) (see column 4, lines 10-12). Takeuchi does not disclose adjusting the DC power; transmitting outputs of the at least two converters to an output filter; or receiving an output from an output filter.

Gegner, drawn to a high power factor AC-DC converter with reactive shunt regulation, discloses a similar method, comprising adjusting the DC power to ensure that the DC power has at least a predetermined value for a power factor (503) (see column 4, lines 56-65 and Figure 5). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to adjust the DC power output from the rectifier of Takeuchi, in order to allow the output voltage, current, or power to be maintained independent of variations in the load. Gegner also does not disclose an output filter.

Philips, drawn to a universal adapter with interchangeable plugs, discloses transmitting the output of a DC-DC converter to an output filter (322), and receiving an output (324) from the output filter (322) (see column 4, lines 50-55 and Figure 12). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to transmit the output of Takeuchi in view of Gegner to an output filter, in order to block noise interference from the output voltage signal.

As to claim 29, Gegner discloses suppressing harmonic signals (501) from reflecting back to the AC input lines (see column 8, lines 6-7).

As to claim 32, Takeuchi in view of Gegner and Philips do not disclose the 0.98 power factor value; however, selections of values of operational levels for an electronic device are engineering decisions based upon the system's intended use and the expected requirements of the systems with which it will interface. See MPEP §2144.04 IV (A).

In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that,

Art Unit: 2836

where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

15. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Gegner and Philips as applied to claim 28 above, and further in view of the US patent of Pendleton et al. (6,862,644).

As to claim 30, Takeuchi in view of Gegner and Philips disclose all of the claimed features, as set forth above, except for a chassis. Pendleton, drawn to a backplane architecture for a telecommunications system chassis, discloses providing power (21) back to a chassis (10) for distribution to components of a user system (see column 3, lines 4-7). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to provide the output power from the system of Takeuchi in view of Gegner and Philips back to a chassis for distribution to other components of the user system, as per the teaching of Pendleton, because it is more efficient for multiple components to be connected to a common chassis/backplane.

16. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Gegner and Philips as applied to claim 28 above, and further in view of the US patent of Stewart et al. (6,894,439).

As to claim 31, Takeuchi in view of Gegner and Philips disclose all of the claimed features, as set forth above, except for sending and receiving status information between a power monitor and the user system. Stewart, drawn to a portable power

converter pack, discloses sending and receiving status information between a power monitor (45) and a user system (portable power converter) via a connector (46) (see column 9, lines 30-45 and Figure 8). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to send and receive status information between a power monitor and the user system of Takeuchi in view of Gegner and Philips, in order to avoid damage to the user system due to an overtemperature or undertemperature condition, or insufficient power supply.

### ***Response to Arguments***

17. Applicant's arguments, see Remarks, filed January 19, 2007, with respect to the objections and rejections of claims 17-25 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The objections and rejections of claims 17-25 under 35 U.S.C. 112, second paragraph, have been withdrawn.

18. Applicant's arguments filed January 19, 2007, with respect to the rejections of claims 28-32 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive because Applicant's priority claims have been rejected for the reasons set forth above.

### ***Conclusion***


19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US patents to Malik (5,319,536), Faulk (5,894,412), and Chen et al. (6,081,437) disclose similar power supply systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

hik

  
BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800